

What do you think
inquiry means?

What might this involve?

How might this vary
from other forms
of learning?



Inquiry into Inquiry

Taking the Model out of Inquiry

Inquiry is about curiosity, exploration, having questions that you want to find the answers to, or things you want to test out. It is a state of mind or a disposition. It starts as a baby interacting with its world and working out how the world interacts with it. It is the most natural way to learn, and thereby ideally suited to all levels of the school.

The simplicity and effect of this mode of learning is stimulated, not by a linear model with tight structures and constraints, but rather by a teacher who can tap the interest of the learner and provide systems that help them to dig deeper, explore further, apply their learning and create new and powerful understandings about their world.

In this workshop we will explore the simple ways that we can stimulate deep and effective learning through inquiry.

What are our wonderings for today?

<http://ietherpad.com/3Rinquiry>

Jot down the things you know, have heard or wondered about inquiry – this will be our starting point for the day.

Taking the Model



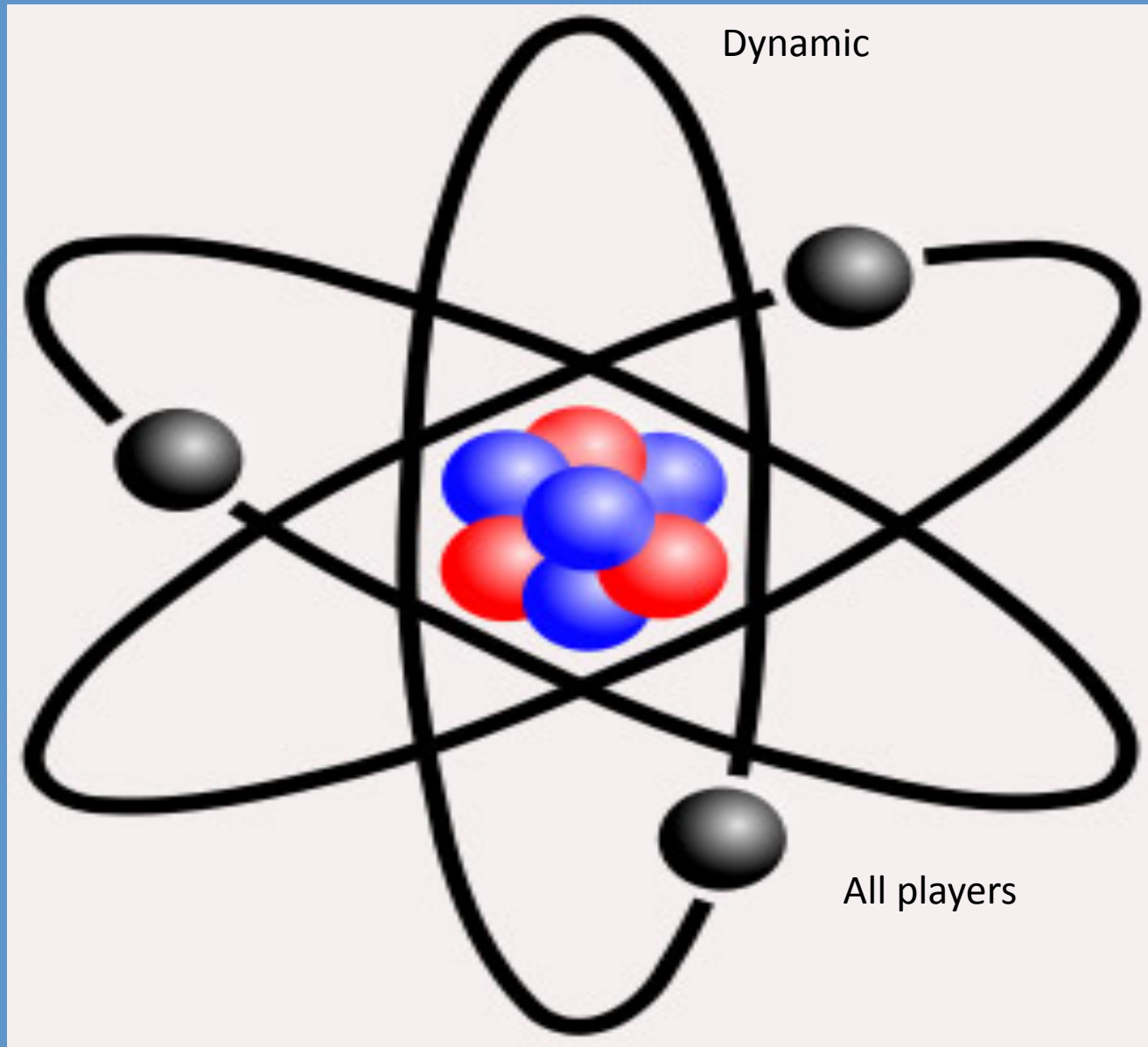
out of Inquiry

Cohesive

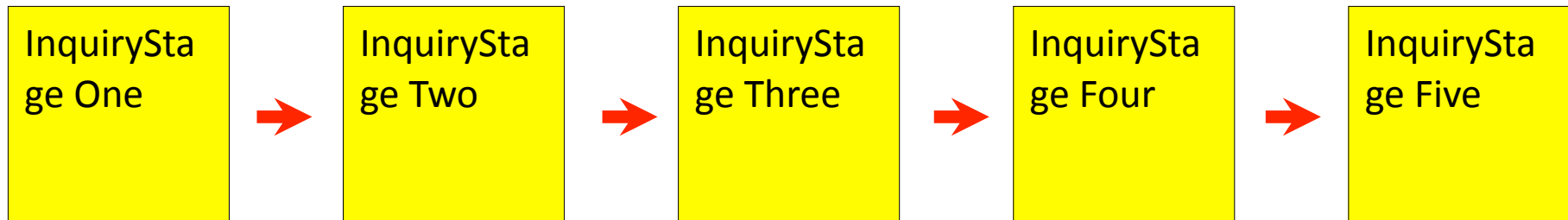
Dynamic

Self directing

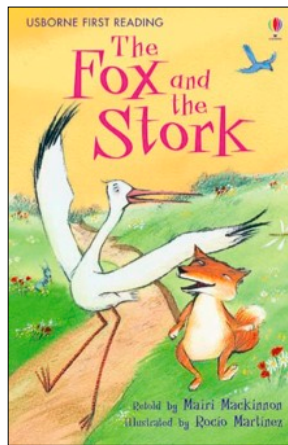
All players



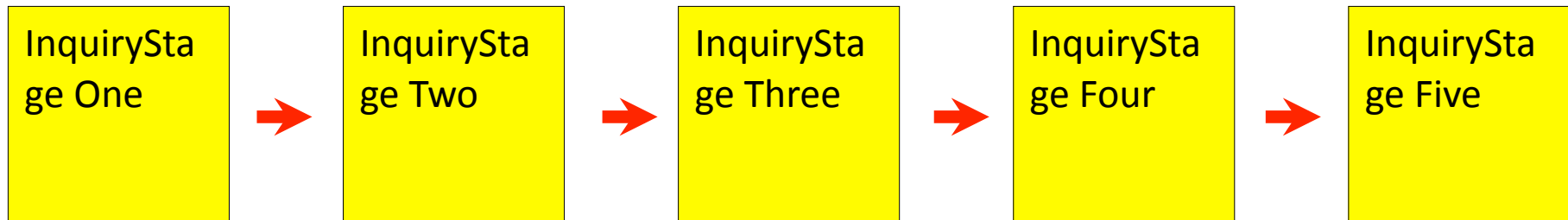
The model is . . .



unhelpful



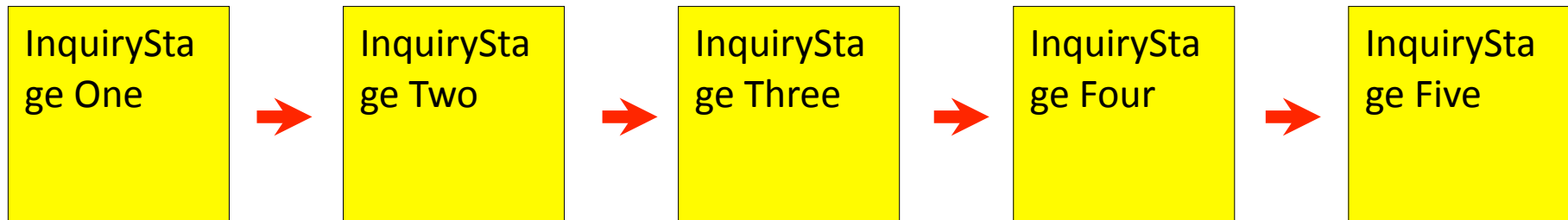
The model is . . .



constraining

2 weeks + 2 weeks = Not enough time in the term
The rather than the learning needs and players.

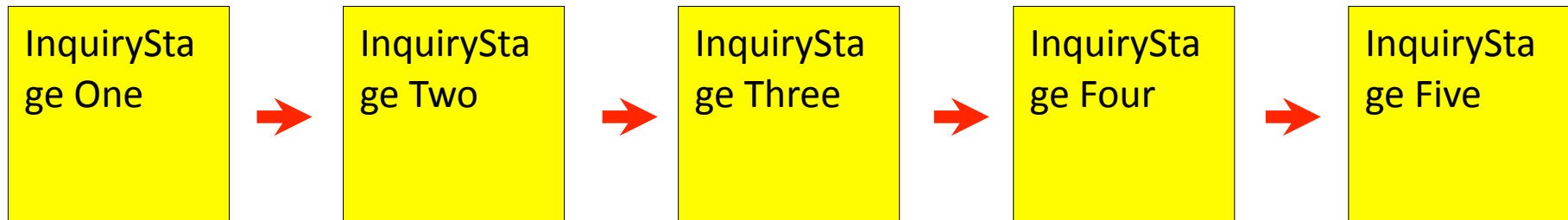
The model is . . .



stressful



The model is . . .



**Contrary to the
disposition**



Many schools have simplified "Inquiry" to make it easier and more manageable. In doing so they have lost the essence and the purpose.

Inquiry should lead kids out of the box not into one. It should reach new ground and depth for the learner and capture the heart and the mind.

It might not have a neat and tidy conclusion, but something inside the individual should change. They should emerge with new skills, new ideas, new understandings and new knowledge.

The teacher should also remain at least as sane as when the unit started because its not about chaos.

Empowerment of learners is about clear processes and direction that they can apply in future learning.

Inquiry into Inquiry

Look a little deeper!

What do you see?

What else might
you want to find out?

The Continuum Activity

More true than false

More false than true

- Inquiry is a very effective way to learn.
- Students take full responsibility for their learning when you use an inquiry approach.
- You can't pre plan an inquiry because you need to involve the students at the beginning of the process and the unit will move where the individual student interest lies.
- The internet will have all the information that students need to undertake their inquiry.
- The key competencies are central to good inquiry and need to be specifically taught.

Discuss the statements given to your group and place them on the continuum from “more true than false” to “more false than true”. Negotiate until you reach agreement on where you place them and justify your decision.

- Take a photo of your continuum

- Share your findings with the full group
by choosing one that was easy to negotiate and one that was harder to reach
consensus over.

- What is the teacher role in that activity?

- What is the teacher role in inquiry?

Take the statements that were “more true than false” and discuss further - modify them if necessary, and rank them in priority order of importance. Negotiate until you can reach agreement. Take photo.

Share back

How could this type of activity be modified for classroom use at various levels of the school or for staff meetings to get to deeper understanding?

What is its purpose in inquiry?

What are other variations on this theme?

What does it mean for assessment?

Assessment - the baseline

- Class overview
- Individual inputs, conceptions, misconceptions, prejudices, stereotypes etc.
- Ability to manage self, participate and contribute, relate to others, think (KCs)
- Evidence - charts, sharing back (video or sound capture), photos, individual reflection sheets.

Inquiry wiki

<http://inquireinto inquiry.wikispaces.com/>

Take notes using single word / groups of words

Tracy Nail



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Paste in a bunch of text:

concepts big-ideas gather materials students ask-questions investigate guide
students investigations testable hypotheses children consistently ask-questions
let students ask-questions investigate innate human instinct opportunities
discuss reflect findings critical journaling authentic reading writing
challenging frightening control less-structured less-teacher-directed model
skills teach step-in help guide open-ended-questions teacher facilitator
develop deepen understanding scientific-process observation hypotheses
experiment analysis support reject hypotheses experiment talking processing
information time reflect talk groups business-like thinking listening
processing problem solving more discussion MAKE-TIME no-unanswered-questions
imitate adult scientist judge journals notebooks show-progress-over-time
general specific detailed alternative rote-learning more-teacher-preparation
rewarding

Go

investigate ask-questions students hypotheses opportunities develop understanding reflect processing materials guide experiment critical open-ended enriching no-unanswered-questions journaling business-like support investigations alternative listen specific teach solving deepen findings control collaboration teacher ideas skills model instinct writing analysis learning rewarding groups right-wrong journals open-ended-questions rote-learning let discuss talking imitate less-structured scientist children facilitator innate human information detailed authentic reject thinking gather bigger-concepts general testable reading challenging observation problem judge less-teacher-directed more-teacher-preparation notebooks experiences frightening fearful time scientific-process discussion consistently engaging show-progress-over-time MAKE-TIME big-ideas step-in discuss less-structured scientist children facilitator innate human information detailed authentic reject thinking gather bigger-concepts general testable reading challenging observation problem judge less-teacher-directed more-teacher-preparation notebooks experiences frightening fearful time scientific-process discussion consistently engaging show-progress-over-time MAKE-TIME big-ideas

maximise issues real-world
not-direct-instructors facilitators curiosity
alternative-energy preservation inquisitive
connections new-things student-centred
big-picture learning process
industry ecology habitat explore environment kids innate
creative better-world problem-solving share



Ask questions

Investigate

Hypotheses

Students

Curiosity

Rigor

Perseverance

Reflective

Informed

Skillful

Processing

Guide

Learning

Creative

Experiment

Opportunities

Guide

Understand

Develop

Reflect

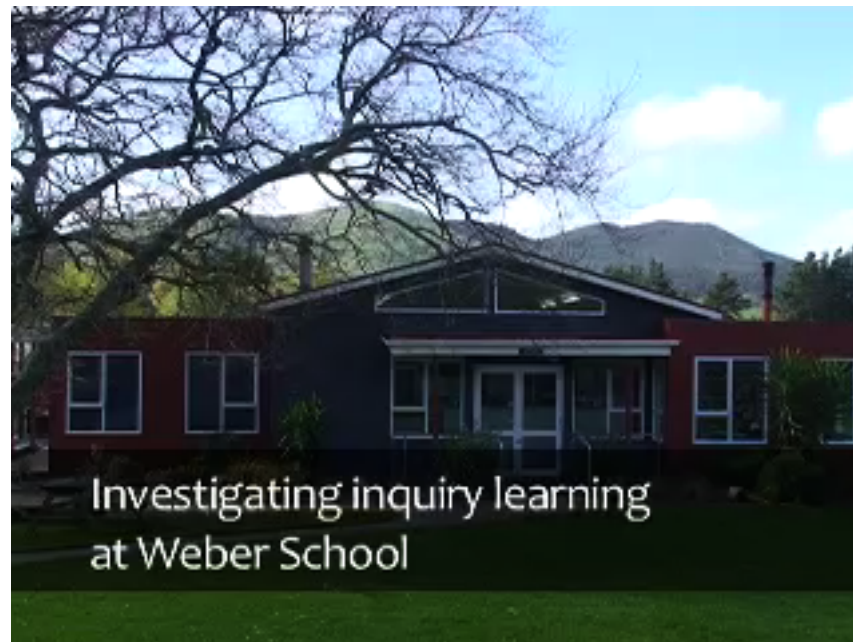
Innate

Materials

Discuss & debate

Challenge

Intrinsic reward



<http://nzcurriculum.tki.org.nz/Curriculum-stories/School-stories/Engaging-with-the-community-at-Weber-School/Weber-Inquiry>

Jot down your current thinking about what good inquiry looks like – what are the elements that you would want to see.



A baby exploring



A problem needing a solution



A question demanding an answer



A Pathway yet untried



A trial to be judged

Inquiry is . . .



A doorway to be opened



A clue as yet unsolved



A hypothesis to be investigated



A photo without a caption



An unassembled jigsaw

Inquiry can be random, cyclic, requiring of perseverance,
not easy to answer, unanswerable today and maybe even
tomorrow, complex, infinite, not always achievable,
invigorating and engaging, self sustaining, global, local,
messy, multi-layered, collaborative, personalised, student
enabling, building on previous work,

Inquiry is NOT . . . ?



- linear
- filling the boxes
- painting by numbers
- roaming only in the known
- rigid in structure
- one school term in duration NO MATTER WHAT!
- just what you do in the afternoons,
- confined to one learning area nor outside of learning areas
- simply a display in a powerpoint, a movie or a wiki
- totally teacher orchestrated
- totally up to the kids to direct and control
- a research project
- unleashed chaos . . . x 31 or 27
- every child an island
- devoid of specific teaching
- always concluded by a SO WHAT?!?
- something you only do sometimes because you need more than that to balance the curriculum



INQUIRY IS ABOUT GETTING KIDS OUT OF THE BOX - NOT INTO ONE!



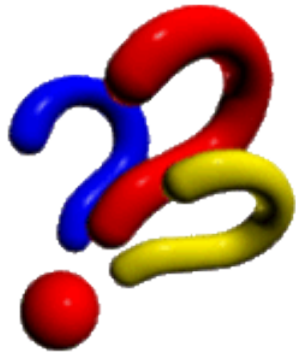
- Inquiry models are ways that have been developed to 'manage' inquiry. They may be helpful to the teacher, and the student, but they should not confine and limit what is achieved. They should grow beyond what they start out to be as we become more conversant with inquiry, and gain confidence to explore further, wider, deeper.
- Success is measured only in what new ground is explored or achieved - knowledge, new skills, new processes, new applications.
- Inquiry leads to change in the students, in the class and beyond.
- Inquiry is regularly reflective, self assessing, seeking feedback, new goal setting and monitoring, inquisitive
- Assessed - sometimes summatively but always formatively
- Inquiry leads to further inquiry.
- It may start with a problem, a big question or a little question. It's where it goes that counts.

What happens when you turn on the tap?



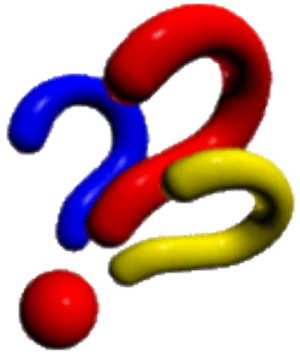
- It requires deliberate acts of teaching in a classroom to further enable and empower students to take on more of the ownership and control. Students need help to enrich their questions, extend their boundaries, challenge their thinking, require them to justify and validate their stand.
- It requires deep thinking - critical, analysis, compare and contrast.

Resources for developing understanding of and facility with inquiry



Sharon Friesen from Galileo Educational Network in Canada presented a workshop for Waikato teachers following the ULearn Conference in 2007. She kindly provided us with a link to a wealth of resources during that workshop. Check out in particular her inquiry presentation where she dispels some myths about inquiry, and her inquiry rubric that will clarify where you are at with inquiry and where to next.

<http://galileo.org>

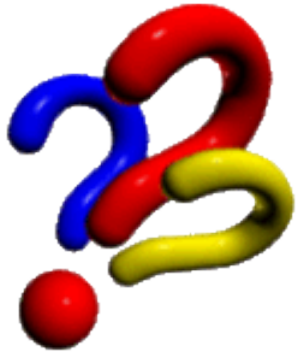


INQUIRY:

HOW KNOWLEDGE IS CREATED

Sharon Friesen

Galileo Educational Network

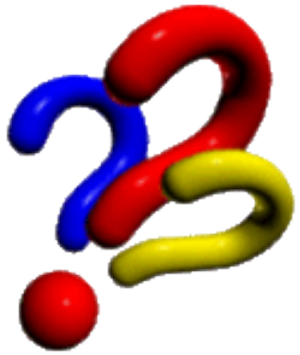


Inquiry begins with the desire to understand.

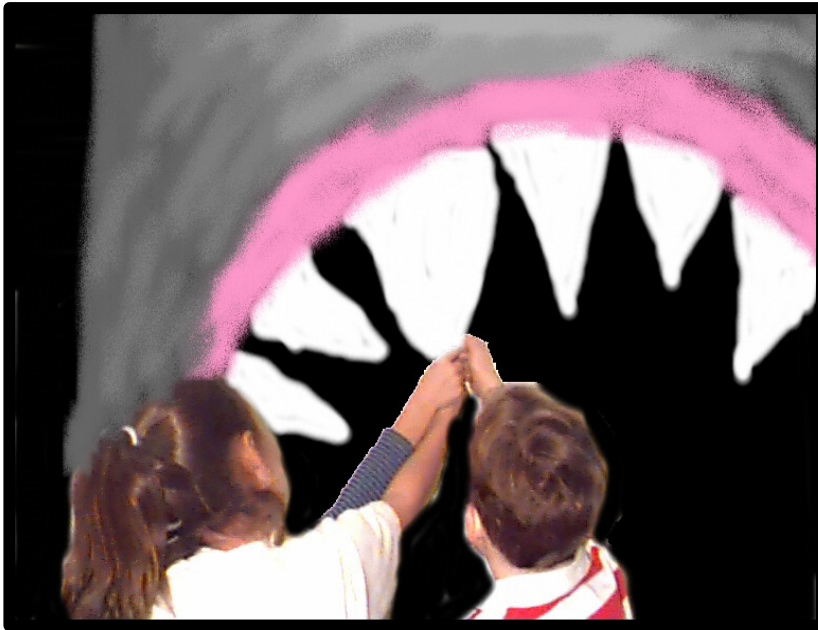
“All men by nature desire to know.” - Aristotle



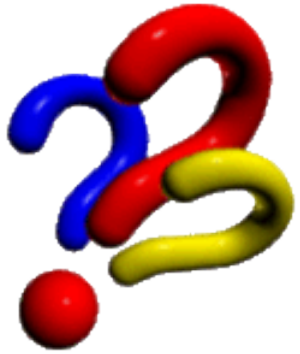
- a question
- an issue
- a problem
- an idea
- a puzzlement
- a wondering



Beginning: What Matters?

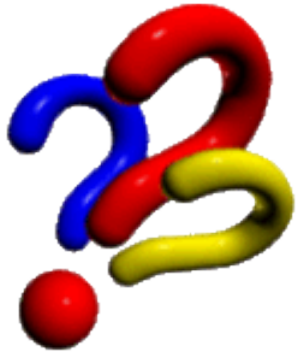


- Inquiry needs a topic
- It begins with a meaningful (real) question, problem or issue.
- This question, problem or issue can be initiated by the teacher or by students.
- It requires a strong mapping to the appropriate curricula



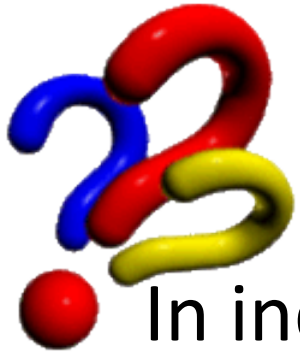
Defining Inquiry

Inquiry is the investigation into an idea, question, problem or issue. It involves gathering information, building knowledge and developing deep understanding. Inquiry-based learning encompasses the processes of posing problems, gathering information, thinking creatively about possibilities, making decisions and justifying conclusions.



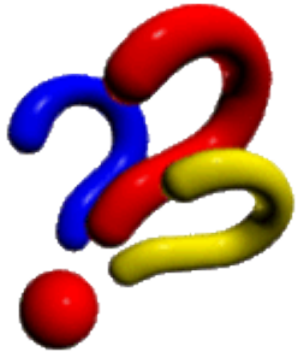
Myths About Inquiry

- The teacher must never tell the students what they know.
- Inquiry-based teaching absolves the teacher of any responsibility to act on students' incorrect conceptions.



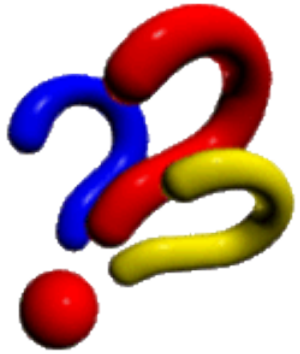
Myths

- In inquiry-based teaching, the teacher is only the facilitator.
- In inquiry-based teaching the teacher does not need to know anything about the subject matter, as it is the students who lead the inquiry.



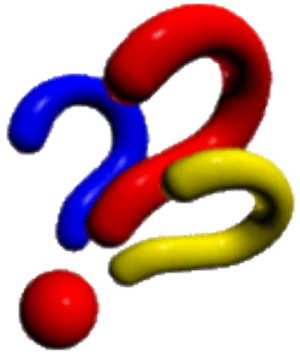
Myths

- In inquiry-based learning the students must learn everything by themselves
- Inquiry-based learning means uncontrolled exploration



Myths

- In inquiry-based learning all student answers and responses are equally valid
- In inquiry-based learning students must do all learning cooperatively in groups.



Myths

- Inquiry-based learning means lower standards.
- Inquiry-based learning de-emphasizes the 'basics.'

The Inquiry Learning Community



*Learner
Centered*

*Knowledge
Centered*

*Assessment
Centered*

Experience

Setting up the context

- * presenting problems
- * discussing ideas
- * introducing issues
- * asking compelling questions
- * addressing misconceptions



Understanding

- * Explaining new insights
- * Applying in new and noisy contexts
- * Demonstrating empathy
- * Revealing self knowledge
- * Evaluating and critiquing
- * Creating new ideas/ new works/ new working theories
- * Doing something with what is known and understood
- * Reflecting
- * Contemplating

Information

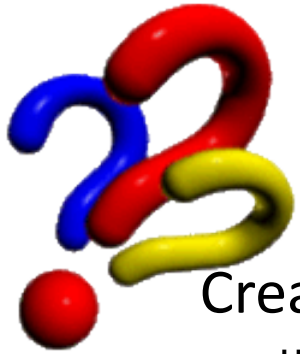
- * Gathering, critiquing, analyzing & interpreting
- * Creating working theories
- * Posing new questions

e.g. kayaking

Knowledge Building

- * Problem solving
- * Problem posing
- * Developing expertise
- * Building on existing knowledge
- * Bringing forth evidence
- * Working with ideas
- * Explaining new insights
- * Integrating new ideas

galileo



Key Features of Inquiry

Creating Knowledge

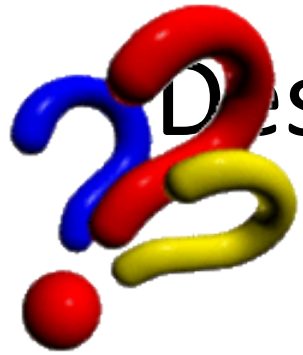
- using or manipulating knowledge as in analysis, interpretation, synthesis, and evaluation, rather than only reproducing knowledge in previously stated forms. It involves idea improvement and ongoing feedback.

- **Disciplined Inquiry**

- gaining in-depth understanding of limited topics, rather than superficial acquaintance with many, and using elaborated forms of communication to learn and to express one's conclusions.

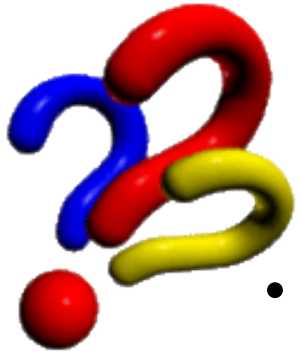
- **Value Beyond School**

- the production of discourse, products, and performances that have personal, aesthetic, or social significance beyond demonstration of success to a teacher.



Designing Tasks and Assessment

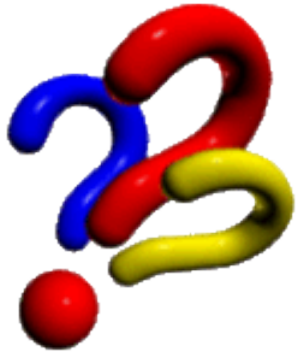
- *“The tasks that are assigned to students are one of the few variables under the control of educators that directly affect student engagement.”* Phillip C. Schlechty



Hard Fun

- *“If I could go through this experience again, I would. I loved the challenge. The cool thing was that sometimes no one knew the answer so we had to fight hard together to get one. Then when we got the answer it was our own, and we had discovered it. So why not go through the experience when you love what you do and feel like it is your very own?”*

(Student)



The Inquiry Rubric

<http://galileo.org> Resources tab – Inquiry rubric